Page 1

January-10-13 1	1:04:20 AM	,		",955				Page 1				
Revision ID:	D2975 Wearshoe			Accept	*N900	040	100)*	Setup	Start Stop	*N:	S1* S2*
Start Date: Required Date: Reference:	1/10/13 1/24/13	Start Qty: 8.0 Req'd Qty: 8.0			Cust Item I Customer:	D;					IV.	
Approvals:		in: MLJ	Date: 13-01-10			nte:	· ·		Run	Start Stop	*N *N	R1* R2*
Sequence ID/ Work Center ID		Operation Description		/ Set Up/ Run Hours	Tool ID	Tool#	Plan Code	Accept	t Rej		Reject Number	Insp. Stamp
Draw Nbr	Rev	ision Nbr	1									
D2975	Rev	A	1									
*100 *100 Waterjet FLOW CNC Waterje	t		s per Dwg D2975 Dwg Rev:_ if necessary	0.00 0.00 A Prog Rev.	2-			12	<u> </u>	٥		<u>Jm13</u> -2-
*110 * 1 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		QC2- Inspect parts of Memo	off machine FAI/FAIB	0.00				12		<u> </u>		Jm13-2
120 *120* QC Quality Control		QC8- Inspect parts -	second check	0.00 AS 15 0.00 B-2-4				12		· · · · · · · · · · · · · · · · · · ·		

DQA:	Date:	

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

									QA Closed:	Date	:
Work Orde	r:				DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	
Part N					Rework Scrap Use-as-is	Ther	Skid-tube Machining moforming	Crosstube Small Fab Finishing	4	Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other
NCR N	0			··	Work Order Update		Large Fab	Composite]	Supplier	
Root				Descri	ption of work order update	Initial	Ad	ction	Sign &		
Cause	Date	Step	Qty	•	or Non-conformance	Chief Eng	Desc	cription	Date	Verification	QC Inspector
Doc/Data											
Equip/Tooling Department	\dashv					,					
Material	-										
Setup						,					
Other	_										
Process							1				
Supplier											
Training							1				
Unapproved											
					F.	AULT CAT	EGORY				
Landin	g Gear				General					_	_
	Bending				Bend	Grain			Ovalized		Pressure/Forced
ļ	Centre No	ot Concei	ntric to	o/s	BOM/Route	Hardw			Over/Under	tolerance	Temperature/Cure
	Cracks				Broken/Damaged	—	tion Incomplete		Part Incorre	 	Weld
	Crushed/	Crimped.			Burrs	\vdash	ctions Incomplete	/Unclear	Part Lost/M		Wrong Stock Pulled
	Cuffs			_	Contamination	 	enance		Part Moved		·
-	Heat Trea			<u> </u>	Countersink	Mislat		<u></u>	Positioned \		 1
	Inspection		Tube	<u> </u>	Cut Too Short	Misrea		L_	Power Loss/	/Surge	Other
ļ	Ripples in		_	<u> </u>	Drill Holes	Offset					
]_	Torque W			n	Drawing		Calibration				
	Turning S			L	Finish	\vdash	Sequence				
1	Wave/Tw	rist in Tul	oe ·		Folio	Outsic	le Dimensions				

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

Page 2 January-10-13 11:04:20 AM Item ID: D2975 Accept *N900040100* Setup Start **Revision ID:** Item Name: Wearshoe **Start Date:** 1/10/13 Start Otv: 8.00 **Cust Item ID:** Required Date: 1/24/13 Reg'd Otv: 8.00 Customer: Reference: Run Process Plan: Date: Tooling: Approvals: Date: Stop QC: Date: SPC (Y/N): Date: Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Accept Reject Reject Insp. Work Center ID Description **Run Hours** Code Qty Oty Number Stamp 130 0.00 NC BRAKE *130* Brake NC 0.00 Memo Brake NC Deburr if necessaryForm as per dwg D2975 using DT8261 & DT8326 140 QC5- Inspect part completeness to step on W/O *140* Memo Quality Control

150

150 Large Fab

Large Fab

Memo

0.00

0.00

Large Fab

Weld hard surface using DT8210 as per Dwg D2975 & QSI 004Qty
Description BatchA/R 7560 Hardcoat Rod m/24596 > 228

				DQA:
NCR:	Yes /	No	WORK ORDER NON-CONFORMANCE / UPDATE	

NCR: Y	es / No				WORK ORDER NON-C	LONFOR	MANCE / UP	DATE	QA Closed:	Date:	
Work Orde	r·				DISPOSITION			AGAINST DE	PARTMENT	/PROCESS	
Part N					Rework Scrap Use-as-is	Ther	Skid-tube Machining moforming	Crosstube Small Fab Finishing	4	Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other
NCR N	o				Work Order Update		Large Fab	Composite	, necystor	Supplier	
Root				Descri	ption of work order update	Initial	Ac	ction	Sign &		
Cause	Date	Step	Qty	(or Non-conformance	Chief Eng	Desc	cription	Date	Verification	QC Inspector
Doc/Data										,	
quip/Tooling	_ ,	ļ			*						
Operator											
Material											
Setup											
Other											
Process											
Supplier	-										
Training	\dashv									1	
Jnapproved		l	<u> </u>			AULT CAT	<u> </u>			<u> </u>	
Landin	ng Gear				General	AULI CAI	LOOKI				
[Bending				Bend	Grain			Ovalized		Pressure/Forced
Ì	Centre No	ot Conce	ntric to (o/s	BOM/Route	Hardw	are		Over/Under	tolerance	Temperature/Cure
	Cracks				Broken/Damaged		tion Incomplete		Part Incorre		Weld
Ţ	Crushed/	Crimped.			Burrs		tions Incomplete/	/Unclear	Part Lost/M	issing	Wrong Stock Pulled
Ī	Cuffs	•			Contamination	Maint	enance		Part Moved	_	-
Ī	Heat Trea	at	in the state of th		Countersink	Mislab	eled		Positioned \	Vrong	
Ţ	Inspectio	n Strip in	Tube		Cut Too Short	Misrea	ad		Power Loss/	'Surge	Other
	Ripples in	n Bend			Drill Holes	Offset					
	Torque W	Vaves in E	extrusion	n [Drawing	Out of	Calibration				
	Turning S	equence			Finish	Out of	Sequence				
Γ	Wave/Tw	ist in Tul	oe		Folio	Outsic	e Dimensions				

Date:

Wave/Twist in Tube

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January-10-13 11:04:20 AM

Item ID: Revision ID: Item Name:	D2975 Wearshoe			Accept	•	*N900	04ก	100)* s	etup Stai	i VI	S1* S2*
Start Date: Required Date: Reference:	1/10/13 1/24/13	Start Qty: 8.00 Req'd Qty: 8.00	*8* *8*			Cust Item ! Customer:	ID:					
Approvals:	Process Pla	an:	Date:	Tooling	:	D	ate:	_	R	tun Stai	1/1	R1*
	QC:		Date:	SPC (Y	/N):		ate:			Sto	*N	R2*
Sequence ID/ Work Center II)	Operation Description QC10- Inspect visual per	OSI004- ground welds	Set U Run 0.00	Jp/ Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160 QC Quality Control		Memo	gorova ground welds	0.00					(D)	13-0	5-90	250 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 + 200 +
170 *170* Powdercoat Powder Coating		Grey Sandrex (Best 4-3.5.6) Memo STARPTHME	11:00	0.00 0.00 OVEN TEMP	PERATURE:				12.	ф.	BL 13-	D-8L
*180 *180* QC Quality Control		QC3- Inspect Part Finish Memo		0.00	OAS 15,7 15,2	.]			12	,		

												DQA:	Date	·
NCR:	Yes	/ No					WORK ORDER NON-C	O	NFORM	ANCE / UP	DATE	•		
				,								QA Closed:	Date	
Work Ord	er:						DISPOSITION				AGAINST DE	PARTMENT	PROCESS	
Part I							Rework Scrap Use-as-is		ı	Skid-tube Machining noforming	Crosstube Small Fab Finishing	4	Water Jet d. Eng. Coor. e/Packaging	Engineering Quality Other
NCR	Vo.						Work Order Update			Large Fab	Composite] (100)	Supplier	
Root					Desc	crip	otion of work order update	ı	nitial	Act	ion	Sign &		
Cause		Date	Step	Qty		C	r Non-conformance	Ch	ief Eng	Descr	ription	Date	Verification	QC Inspector
oc/Data quip/Tooling perator laterial etup ther rocess upplier raining														
								AUL	T CATE	<u>SORY</u>				
Landi		ı			r		General		۱		_	7	_	ا
		Bending Centre No	ot Concer	ntric to	o/s		Bend BOM/Route		Grain Hardwa			Ovalized Over/Under	-	Pressure/Forced Temperature/Cure
	-	Cracks			ŀ		Broken/Damaged	_		on Incomplete		Part Incorred	⊢	Weld
	_	Crushed/0	Crimped.				Burrs	<u> </u>	ł	ions Incomplete/l	Jnclear	Part Lost/Mi	ssing	Wrong Stock Pulled
		Cuffs					Contamination	-	Mainte		<u> </u>	Part Moved		•
	<u> </u>	Heat Trea		- 1	}		Countersink	\vdash	Mislabe		<u> </u>	Positioned V		
	_	Inspection	•	Tube	}		Cut Too Short	\vdash	Misread	I	L	Power Loss/	Surge	Other
	<u> </u>	Ripples in			1		Drill Holes	<u></u>	Offset					
	<u> </u>	Torque W			n		Drawing	_	4	Calibration				and the second s
		Turning So	equence		1		Finish		Out of 9	Sequence		•		

Outside Dimensions

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Wave/Twist in Tube

Folio

QC

Quality Control

Page 4

January-10-13 11:04:20 AM Item ID: D2975 Accept *N900040100* Setup Start **Revision ID:** Item Name: Wearshoe **Start Date:** 1/10/13 Start Qty: 8.00 *8* **Cust Item ID:** Required Date: 1/24/13 Req'd Qty: 8.00 **Customer:** Reference: Run **Approvals:** Process Plan: _____ Date: Tooling: Date: Stop Date:____ SPC (Y/N): Date: Sequence ID/ Operation Set Up/ Tool ID Tool # Plan Accept Reject Reject Insp. **Work Center ID** Description Run Hours Code Qty **Qty** Number Stamp 190 Identify as per dwg & Stock Location: *100* Packaging 0.00 Memo Packaging 200 QC21- Final Inspection - Work Order Release 0.00

0.00

Memo

Microsign

												DQA:	Date	:
NCR:	Yes	/ No					WORK ORDER NON-C	100	VFORI	MANCE / UPE	DATE			
						_						QA Closed:	Date	:
Vork Ord	er:						DISPOSITION	i			AGAINST D	EPARTMENT	/PROCESS	
Part l	No.		.,				Rework Scrap Use-as-is			Skid-tube Machining noforming	Crosstube Small Fab Finishing	⊣	Water Jet d. Eng. Coor. re/Packaging	Engineering Quality Other
NCR	No.						Work Order Update]		Large Fab	Composite		Supplier	
Root					Desc	ripti	ion of work order update		nitial	Acti	on	Sign &		
Cause		Date	Step	Qty		or	Non-conformance	Ch	ief Eng	Descr	iption	Date	Verification	QC Inspector
oc/Data														
quip/Tooling				<u> </u>										
perator														
laterial														
etup														
ther												1		
rocess														
upplier														
raining														
napproved														
	•			.		•	F,	AUL	T CATE	GCIRY		L	<u>. </u>	
Landi	ng (Gear					General			· · · · · · · · · · · · · · · · · · ·				
		Bending			Γ	Пв	end		Grain			Ovalized		Pressure/Forced
		Centre No	t Concer	ntric to	o/s	Пв	OM/Route		Hardwa	re		Over/Under	tolerance	Temperature/Cure
		Cracks			Ī	Пв	roken/Damaged		Inspecti	on Incomplete		Part Incorred	ct	Weld
		Crushed/0	Crimped.		ſ	В	urrs		1	ions Incomplete/U	Inclear	Part Lost/Mi	ssing	Wrong Stock Pulled
		Cuffs	-		<u> </u>	\Box c	ontamination		Mainte			Part Moved		
		Heat Trea	t		f	_	ountersink		Mislabe		<u> </u>	Positioned V	Vrong	
		Inspection	n Strip in	Tube		\exists_{c}	ut Too Short		Misread	•		Power Loss/		Other
		Ripples in			ľ		rill Holes		Offset		<u>L</u>	-	· L	.
		Torque W		xtrusio	n	_	rawing		ł	Calipration				
		Turning Se				_	inish	Г	4	Sequence				· · · · · · · · · · · · · · · · · · ·

Outside Dimensions

Wave/Twist in Tube

Folio

Picklist Print

January-10-13 11:04:25 AM

Work Order ID: 95513

D2975

Parent Item Name: Wearshoe

95513

D2975

Start Date: 1/10/13

Required Date: 1/24/13

Start Qty: 8.00

Required Qty: 8.00

Comments:

Parent Item:

IPP: C02.10.23Re-formatKJ

IPP Rev:D Now on Waterjet 06-11-21 JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
*M1010S16GA *M1010S1 1010/1025 sheet 16GA	16GA*	Purchased	No			100	sf	252.3000	0.2758	2.322526 3.0			Jm 13-2-
				<u>Location</u> MAT019		<u>Loc (</u>	<u>Oty</u> 52.3	Loc Code					

	Loc Qty	Loc Code	
	252.3		
122455	60.3		
124193	192		
24428			124428

NCR:	Yes	/ No				WORK ORDER NON-	COI	NFORN	/IANCE / UPI	DATE	QA Closed:	Date	:
Work Ord	er:					DISPOSITION				AGAINST DE		•	
Part NCR	No.					Rework Scrap Use-as-is Work Order Update		Therm	Skid-tube Machining noforming Large Fab	Crosstube Small Fab Finishing Composite	4	Water Jet d. Eng. Coor. re/Packaging Supplier	Engineering Quality Other
Root					Descri	ption of work order update		nitial	Act	tion	Sign &		
Cause		Date	Step	Qty	(or Non-conformance	Ch	ief Eng	Descr	ription	Date	Verification	QC Inspector
Doc/Data									. — — — — — — — — — — — — — — — — — — —				
Equip/Tooling									l				
Operator									İ				
Material									}				
Setup								Ì	}				
Other	L												
Process													
Supplier													
Training													
Unapproved													
						F	ΑUL	T CATE	GORY				
Landi	ng (Gear				General		_			_		
		Bending				Bend .		Grain			Ovalized		Pressure/Forced
		Centre No	ot Concer	ntric to	o/s	BOM/Route	L	Hardwa	re		Over/Under	tolerance	Temperature/Cure
	L	Cracks				Broken/Damaged		Inspecti	on Incomplete		Part Incorre	ct	Weld
		Crushed/	Crimped.			Burrs		Instructi	ions Incomplete/U	Unclear	Part Lost/M	ssing	Wrong Stock Pulled
		Cuffs				Contamination		Mainte	nance		Part Moved		
		Heat Trea	at			Countersink		Mislabe	lec		Positioned V	Vrong	_
		Inspection	n Strip in	Tube		Cut Too Short		Misread	I		Power Loss/	Surge	Other
		Ripples in	Bend			Drill Holes		Offset					
		Torque W	Vaves in E	xtrusio	n [Drawing		Out of C	Calibration				

Out of Sequence

Outside Dimensions

DQA:

Date:

Turning Sequence

Wave/Twist in Tube

Finish

Folio

H:/FORMS/Quality Assurance\approved QA/NCRWO Rev G

DART AEROSPACE LTD	Work Order:	95513
Description: Wearplate	Part Number:	D2975
Inspection Dwg: D2975 Rev: A		Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

X First Article Prototype

Drawing Dimension	Tolerance	Actual	Accept	Reject	Method of Inspection	Comments
0.220 x 0.300	+/-0.010	Dimension				
	·	0.220, 0.301	~		V	Jimai
2.141	+/-0.010	2.149"			✓ ·	·
2.891	+/-0.010	2.887"	<u> </u>		V	
0.375	+/-0.010	0.372	-		V	
12.000	+/-0.010	11.997"	-		V	Produtoz
1.240	+/-0.010	1,240"	-		ν.	
R0.06	+/-0.030	0.06	-		RG	
R0.13	+/-0.030	0.13"	J		RG	
				-		

				-		
-						

Measured by: Jm 3 Audited by: 15 Prototype Approval: N/A

Date: /3-2-1 Date: /3-3-4 Date: N/A

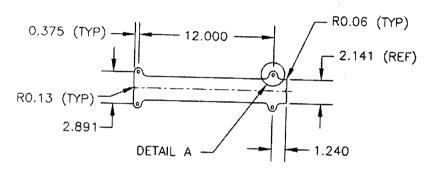
Rev	Date	Change	Revised by	Approved
_ A	07.01.17	New Issue	KJ/JLM	• •



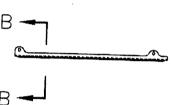


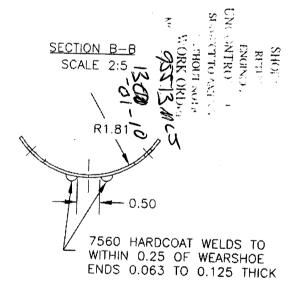
DESIGN RF	DRAWN BY	DART AEROSPACE BELLEVUE, WA	USA, INC.
CHECKED	APPROVED	D2975	REV. A SHEET 1 OF 1
00.03.10		WEARPLATE	SCALE
А	00.03.10	NEW ISSUE	1:8

FLAT PATTERN

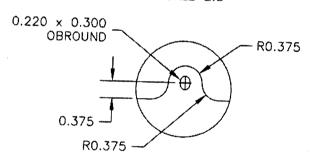


BENDING DETAIL





DETAIL A SCALE 2:5





BREAK ALL SHARP EDGES 0.010 TO 0.020

MATERIAL: AISI 1010-1025 OR ASTM A36/A366 SERIES STEEL

16 GAUGE (0.063 THICK)
FINISH: POWDER COAT GREY SANDTEX (REF. 4.3.5.6) PER DART QSI 005 4.3 TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

ALL DIMENSIONS ARE IN INCHES

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